

M12 Capacitive Level Switch

— Product Selection Guide



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Zhejiang ELEsenson Sensors Co., Ltd.



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M12 Capacitive Level Switch



Product Introduction

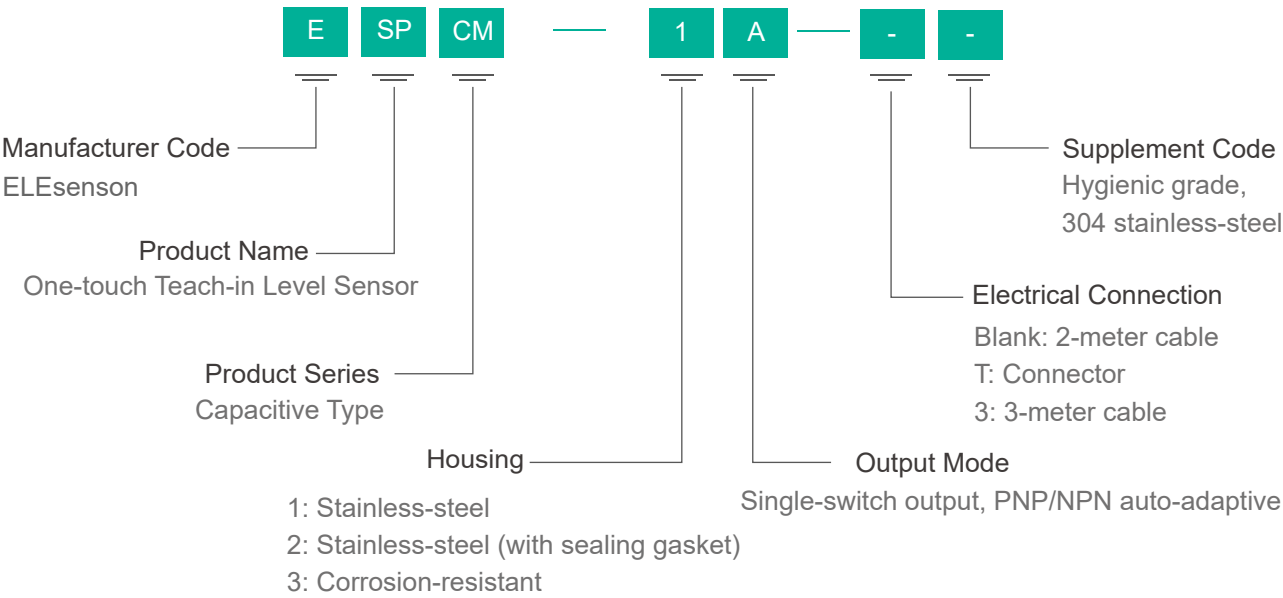
ELEsenson M12 capacitive level switch adopts frequency-scanning technology. The electrode integrated inside the sensor probe forms a capacitor together with surrounding environment; its capacitance value depends on the dielectric constant of the medium. The capacitor and the inductor coil inside the sensor circuit compose a resonant circuit. Switching signal can be triggered based on the measured resonant frequency and adjustable switching operating range.

Equipped with digital frequency-scanning intelligent core, the M12 capacitive level switch delivers outstanding performance to cope with various harsh conditions: stable output under high-low temperature environments, safe compatibility for acid-alkali corrosive media, detection not affected by viscous material adhesion, accurate identification under dusty & humid working conditions. Even for trace-level material level and heavy-interference scenarios, it provides stable and reliable measurement results featuring strong anti-interference and fast response.

Features

- Reliable detection for various media
- Supports multiple process connections
- Suitable for hygienic-grade industries and general industrial applications
- Adaptable to harsh working conditions
- Excellent anti-interference performance

Model Coding Rule

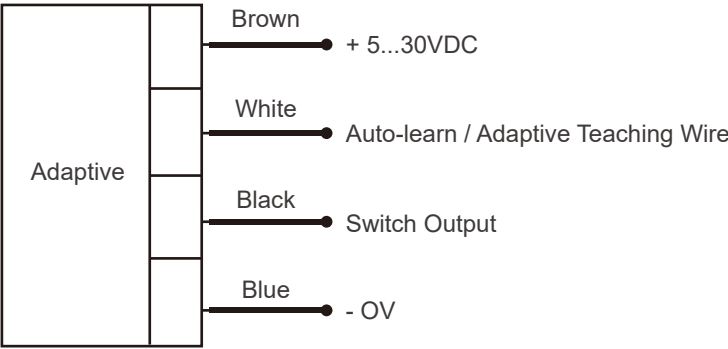


Commissioning Instructions

One-touch Teach-in
1.Keep the probe in contact with measured medium, short-connect the white auto-learn wire to blue negative wire for less than 1 second.
2.Red LED flashes, disconnect auto-learn wire. LED stops flashing → setup completed.

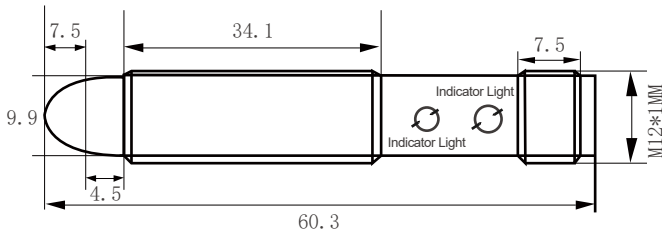
NO / NC Switching
1.Short-connect white auto-learn wire to blue negative wire for more than 1 second.
2.Red LED flashes, disconnect auto-learn wire. LED stops flashing → NO/NC switching completed.

Wiring Diagram



Stainless-steel Version

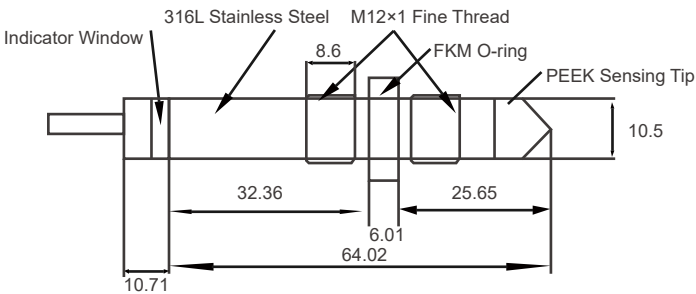
One-touch Teach-in



Specification	
Model	ESPCM-1A-T
Hysteresis	±1mm
Repeatability	±1mm
Response Time	0.1s,typ.0.2s,max.
Output Type	PNP/NPN auto-adaptive
Switch Logic	Auto-adaptive NO / NC
Process Connection	M12 Thread
Wetted-part Material	PEEK
Housing Material	316 Stainless-steel / 304 Stainless-steel
Supply Voltage	5...30VDC
Circuit Protection	Reverse-polarity protection, Overload protection, Short-circuit protection
Ingress Protection	IP67
Operating Temperature	-40...85°C
Current Consumption	<25mA

Stainless-steel Version with Sealing Gasket

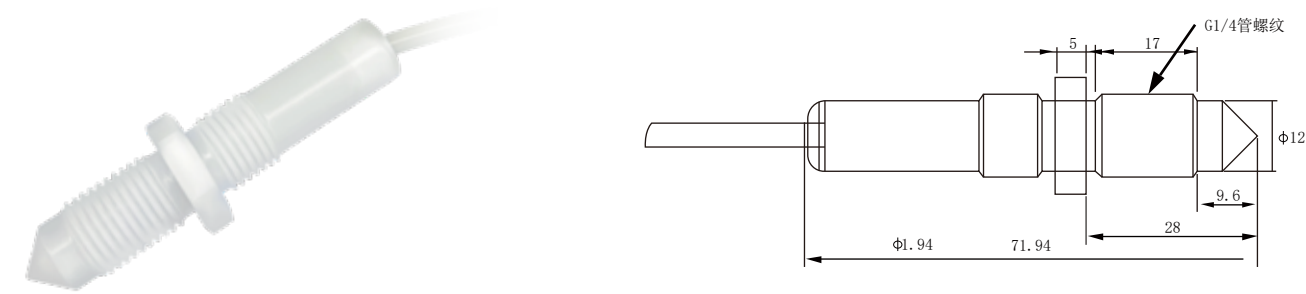
One-touch Teach-in



Specification	
Model	ESPCM-2A
Hysteresis	±1mm
Repeatability	±1mm
Response Time	0.1s,typ.0.2s,max.
Output Type	PNP/NPN auto-adaptive
Switch Logic	Auto-adaptive NO / NC
Process Connection	M12 Thread
Wetted-part Material	PEEK
Housing Material	316 Stainless-steel / 304 Stainless-steel
Supply Voltage	5...30VDC
Circuit Protection	Reverse-polarity protection, Overload protection, Short-circuit protection
Ingress Protection	IP67
Operating Temperature	-40...85°C
Current Consumption	<25mA

Corrosion-resistant Version

One-touch Teach-in



Specification

Model	ESPCM-3A
Hysteresis	±1mm
Repeatability	±1mm
Response Time	0.1s,typ.0.2s,max.
Output Type	PNP/NPN auto-adaptive
Switch Logic	Auto-adaptive NO / NC
Process Connection	M12 Thread
Wetted-part Material	PTFE (Teflon)
Housing Material	PTFE (Teflon)
Supply Voltage	5...30VDC
Circuit Protection	Reverse-polarity protection, Overload protection, Short-circuit protection
Ingress Protection	IP67
Operating Temperature	-40...85°C
Current Consumption	<25mA

Memorandum

COMPANY PROFILE



ELEsenson focuses on R&D, manufacturing and sales of sensors. We have a high-caliber, innovative technical team. Pursuing continuous technical improvement, we deliver high-performance, reliable sensor products for customers.

Our broad product portfolio covers multiple industries including industrial automation, smart home and automotive electronics. Our products are well-received for precise measurement, stable performance and outstanding durability.

During production, strict quality-control procedures guarantee premium quality for every unit leaving our factory. We maintain close cooperation with customers, deeply understanding requirements and delivering customized solutions for special-scenario demands.

ELEsenson regards innovation as core driving force. Continuous investment in R&D and product upgrades. With professional teams, premium products and thoughtful service, Zhejiang ELEsenson Sensors has built solid reputation in the industry, contributing technical strength to the advancement of multiple sectors.

■ Corporate Culture

— Vision

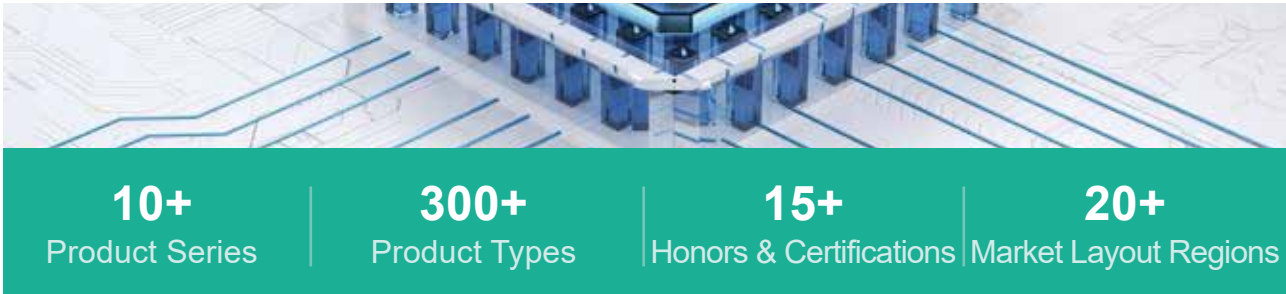
Uphold conviction, reach new heights of sensor-technology development.
Build a globally-leading sensor enterprise and lead industry progress through technological innovation.

— Mission

Drive development through innovation, win trust by quality.
Supply precise,stable,durable and reliable sensor products plus customized solutions for industrial automation, rail transit, automotive electronics and other industries.

— Core Values

Customer-Oriented, Integrity-Based, Innovation-Driven, Quality-First.
We are customer-demand oriented, operate with integrity, pursue innovation and strive for superior product & service quality.



CORE ADVANTAGES

- Professional & Efficient Team

Experienced and skilled personnel providing high-quality service & technical support.
- Strong R&D Capability

Advanced R&D equipment & specialist team to develop innovative, competitive products.
- Complete After-Sales Support System

Timely response to customer requests, comprehensive technical support & solutions to maximize customer satisfaction.



HONORS AND QUALIFICATIONS



Brief Product Catalog | English Version | Issue 1, 2025

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<https://www.elesenson.net>